REMARKS

Claims 1-40 are currently pending in the present patent application. Claims 1, 5-11, 27, and 37-39 have been amended, and claims 3, 4, 13-26, and 36 have been canceled. No new matter has been added by these changes, since limitations of some of the canceled claims have been placed in independent claims 1 and 27, and the numbering of some of the depended claims has been changed to reflect the cancellation of canceled claims from which they earlier depended.

In the subject Office Action, the Examiner rejected claims 1-12 and 20 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as their invention, since the Examiner asserted that these claims are generally narrative and indefinite, fail to conform with current U.S. practice, and appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. In particular, claim 1 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite, since the Examiner stated that it fails to point out what is included or excluded by the claim language, and is an omnibus type claim. For example, the Examiner stated that in line 3, applicants recite the word "and" and in line 4, the word "or". The Examiner stated further that in claim 3, the phrase "...polyaniline fiber comprises..." in line 2, is indefinite because in claim 1 applicants recite the phrase "...consisting of conductive polyaniline fiber..." in line 2.

In Section 2173.05(h) II. of the Manual of Patent Examining Procedure, it is stated that: "Alternative expressions using "or" are acceptable such as "wherein R is A, B, C, or D." Additionally, in Section 2173.01 of the Manual of Patent Examiner Procedure it is stated that: "Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought." With regard to claim 1, applicants respectfully wish to point out that the "consisting of" language is part of language associated with a Markush group "...selected from the group consisting of..." In Section 2173.05(h) I. of the Manual of Patent Examining Procedure, it is stated that: "Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity

of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being 'selected from the group consisting of A, B and C.'" Therefore, applicants fail to understand exactly what the Examiner has found to be indefinite in claim 1 concerning the "consisting of" language.

In line 2 of now cancelled claim 3 applicants have used "comprising" language when describing the conductive polyaniline fiber which is one member of the Markush group, thereby allowing further definition thereof in a dependent claim. The "comprising" language now appears in amended claim 1; however, the resulting "conductive polyaniline fiber" remains "conductive polyaniline fiber", but with added dopants. Therefore, applicants respectfully believe that claim 1, as originally filed, is not indefinite under 35 U.S.C. 112, second paragraph.

The Examiner continued by stating that claim 20 recites the limitation "the heating apparatus" in line 1, and there is insufficient antecedent basis for this limitation in the claim. Applicants have canceled claim 20, so no further response to this ground of rejection is deemed necessary.

Claims 1 and 2 were rejected under 35 U.S.C. 102(e) as being anticipated by Rock et al. (US 2004/0045955), since the Examiner asserted that Rock et al. teaches a heating apparatus comprising a heating element 16 and a battery pack 36 for passing a voltage and current through the heating element, and the heating element selected from a conductive textile that includes conductive fibers and/or yarns that include polyaniline (Page 4 [0042]). Applicants have amended claim 1 to include the limitations of claims 3 and 4. Rock et al. does not require or teach that the polyaniline fibers experience destruction of conductivity at temperatures below that which is required to affect dopant loss or dopant destruction, when a voltage or current greater than a characteristic voltage or current for that polyaniline fiber. Therefore, applicants believe that Rock et al. does not anticipate amended claims 1 and 2 of the present claimed invention.

Claims 13-18 were rejected under 35 U.S.C. as being anticipated by Mattes et al. (US2004/0119187), since the Examiner stated that the applied reference has a common assignee and inventor with the instant application, and based upon the

earlier effective U.S. filing date of the reference, this patent application constitutes prior art under 35 U.S.C. 102(e). The Examiner continued that this rejection under 35 U.S.C. 103(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed, but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. The Examiner stated further that Mattes et al. teaches a conductive polyaniline fiber comprising at least one dopant and characterized by an as-spun conductivity of > 100 S/cm, an as-spun peak stress > 75 MPa, and an inherently chosen diameter and an as-spun modulus > 1 GPa and as-spun percent extension at fracture > 10 (page 14, TABLE 15), and as for claims 15-18, Mattes et al. teaches a sulfonic acid and a molecular weight of > 200,000 g/mol (page 16 [0145]. Applicants have canceled claims 13-26, and believe that no further response is required for this ground of rejection.

Claims 1-2 were next rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagaki et al. (U.S. Patent No. 4,792,662) in view of Hsu et al. (U.S. Patent No. 5,882,566), since the Examiner asserted that Kitagaki et al. teaches an electrical heating element 1 comprising an electrically conductive yarns 5 and non-conductive yarns 6 (Fig. 2), and yarns 2 and 3 in the form of fabric, but does not teach a polyaniline yarn. The Examiner then stated that Hsu et al. teaches an electrically conductive polyaniline yarn (Col. 11, lines 50-63), and that it would have been obvious to one having ordinary skill in the art to modify the invention of Kitagaki et al. to replace its yarn 5 with the polyaniline yarn of Hsu et al. in order to make a heating apparatus with high strength and consistent conductivity by Hsu et al.'s teaching (Col. 1, lines 45-54). As for means for passing a voltage or current through the heating element, the Examiner concluded that it would be obvious to connect this electrical sheet to a power source in order to provide heat as a common knowledge.

Applicants respectfully disagree with the Examiner concerning this ground of rejection. In Col. 11, lines 37-43 of Hsu et al. it is stated that: "This example illustrates spinnability of an properties of fibers derived from an insitu ring-sulfonated polyaniline/PPD-T solution in concentrated sulfuric acid (100.1%)

containing 18.6% polymer mixture of insitu ring-sulfonated polyaniline and PPD-T in a weight ratio of 10/90. In this example, the polyaniline was added together with PPD-T to concentrated sulfuric acid (100.1%)." In line 62 of this column it is stated that: "The fiber conductivity is 0.0038 S/cm." TABLE 1 of Hsu et al. recites the highest conductivity of the resulting fibers to be 1.8 S/cm. Column 2, lines 12-16, of Hsu et al. states that ring-sulfonated polyaniline amounts in poly(p-phenylene terephthalamide) range from 3-40 (PPD-T). Applicants therefore believe that Hsu et al. teaches away from the present claimed invention in that the conductivity of the "polyaniline" fiber is insignificant relative the 100 S/cm conductivity claimed in independent claims 1 and 27, as amended. Moreover, the "polyaniline" fiber of Hsu et al. represents a polyaniline dopant in a poly(p-phenylene terephthalamide) fiber.

The Examiner then stated that applicant has not provided any details for power source means in the subject patent application. Applicant wishes to respectfully point out that on page 10, lines 14-19 of the subject Specification, as originally filed, it is stated that "Power sources include both ac and dc electrical sources. Such sources comprise batteries, and electrical power supplies and further include electrical constant current and/or constant voltage power supplies."

Claims 27-40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. in view of several other references. As stated hereinabove, applicants believe that Hsu et al. teaches away from the present claimed invention, and therefore the combination of Hsu et al. with other references is improper.

Moreover, Barry, Jr. teaches a process for reducing the conductivity of polyaniline-coated fabrics by subjecting the polyaniline to temperatures between 70 °C and 200 °C. Pron et al. in paragraph [0101] teaches metallic behavior of conductivity for doped polyaniline films, not the destruction of conductivity at temperatures well below the destruction temperature of a polyaniline fiber, as recited in the subject claimed invention. In the case of metal fibers, conductivity would be destroyed when the fibers actually melt or are otherwise rendered discontinuous. The Abstract of Pron et al. states that: "The invention relates to the use of sulphonic, phophonic and phosphoric acids functionalized with plasticizing

groups as dopants for conductive polyaniline films and for conductive polyaniline-based composite materials."

In paragraphs [0022] and [0023] of Lee et al. it is stated that: "It is a principal object of the present invention to provide a soluble self-orienting material as an additive for enhancing electrical conductivity of conductive polymer. Another object of the present invention is to provide a conductive polymer having an electrical conductivity of 10^3 S/cm that is more 100 times than that of a doped pure conductive polymer."

Thus, these references clearly also teach away from the present claimed invention which teaches self-fusing properties of conductive doped polyaniline fibers and fabrics fabricated therefrom, and applicants respectfully believe that the Examiner has improperly combined references, some of which by themselves teach away from the present claimed invention, with Hsu et al., which clearly teaches away from the subject claimed invention. The Examiner has therefore failed to make a *prima facie* showing of obviousness which is required in a rejection under 35 U.S.C 103(a).

For these reasons, applicants believe that claims 1-40, as amended, are in condition for allowance or appeal, the former action by the Examiner at an early date being earnestly solicited. Reexamination and reconsideration are respectfully requested.

Respectfully submitted,

Date: April 11, 2005

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